

**EXAMINER'S AMENDMENT & REASONS FOR ALLOWANCE**

**I. EXAMINER'S AMENDMENT:**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Anne E. Barschall (Reg. No. 31,089) on 09/10/2008.

**The application has been amended as follows:**

**In the Claims:**

**This listing of claims will replace all prior versions, and listings, of claims in the application:**

1. (Currently amended) A computer method, comprising executing at least the following ~~operation~~ operations in at least one data processing device:

establishing a mapping from lists and scalars corresponding to at least one data source into XML elements and attributes; and  
expressing the mapping in constructs of a mapping language,  
wherein the mapping language includes two constructs: the binding specification and the value specification,  
wherein the value specification associates with a value or choice declaration, wherein the binding specification includes at least one variable/expression pair,  
wherein the at least one data source comprises multiple heterogeneous data sources, and the method further comprises:  
using a pre-established Document Type Definition (DTD)  
corresponding to the multiple heterogeneous data sources; and  
based on the pre-established DTD and the multiple  
heterogeneous data sources, adding annotations to the pre-  
established DTD to create an annotated DTD, such that an  
Extensible Markup Language (XML) document generated from the  
annotated DTD is guaranteed to conform to the pre-established  
DTD.

7. (Original) The method of claim 1, wherein the data source is a relational database.

8 -18. (Cancelled)

19. (Previously presented) The method of claim 90, wherein at least one of the constructs comprises at least one parameter; the at least one of the constructs is adapted so that a value of the at least one of the parameters is determinable at a time of generation of at least one respective XML element associated with the at least one of the constructs.

20. (Cancelled)

21. (Currently amended) The method of claim 19 further comprising:  
~~producing an XML document based on the mapping; and~~  
passing the value to the parameter.

22. (Currently amended) The method of claim 90, further comprising executing the following operation in the data processing device: associating values and/or formulas with the pre-established DTD.

23 - 24. (Cancelled)

25. (Original) The method of claim 22, wherein the associating includes associating one or more lists of data objects or formulas producing data objects with each DTD construct having a repetition symbol at the end.

26. (Cancelled)

27. (Currently amended) The method of claim 25 comprising:  
producing [[an]] the XML document using a medium embodying a result of the associating; and responsive to performing the associating operation.

28. (Original) The method of claim 22, wherein the associating includes associating one or more lists of data objects or formulas producing data objects with each DTD construct which is not a #PCDATA, a choice list, or an attribute list, and does not end with a repetition symbol.

29 - 30. (Cancelled)

31. (Original) The method of claim 22, wherein associating includes associating a

value or formula producing a value with each PCDATA, choice list, or attribute definition.

32 - 33. (Cancelled)

34. (Original) The method of claim 22, wherein associating includes, not necessarily in the following order:

first associating one or more lists of data objects or formulas producing data objects with a DTD construct;

second associating at least one of the lists or formulas with at least one variable name; and

using the variable name as a parameter in at least one other formula.

35 - 36. (Cancelled)

37. (Original) The method of claim 1, further comprising executing the following operation in the data processing device: associating at least one respective environment with a respective XML element to be generated.

38 - 39. (Cancelled)

40. (Currently amended) The method of claim 37, wherein the at least one environment comprises;

information from a parent XML element of the respective XML element;

and

information from a binding specification of a DTD construct associated with the respective XML element.

41- 42. (Cancelled)

43. (Currently amended) The method of claim 37, wherein

the mapping includes at least one respective specification corresponding to at least one respective XML element;

the specification comprises at least one parameter for receiving a value upon generation of [[an]] the XML document; and

the method further comprises, upon generation of [[an]] the XML document, sending the at least one parameter a value according to at least one variable/value pair in the at least one respective environment.

44 - 83. (Cancelled)

84. (Previously presented) The method of claim 1, wherein the mapping is responsive to a user mapping specification.

85 - 86 (Cancelled)

87. (Previously presented) The method of claim 1, wherein the at least one data source comprises at least two data sources, and the data sources are of different types.

88 - 89. (Cancelled)

90. (Currently amended) The method of claim [[10]] 1, further comprising executing the following operation in the data processing device: inserting the constructs into [[a]] the pre-established DTD to create [[an]] the annotated DTD.

91- 96. (Cancelled).

97. (Currently amended) The method of claim 90 where [[a]] the annotated DTD comprises machine readable code embodied on a machine readable medium, the code comprising:

[[a]] the pre-established DTD relating to an XML format; and

annotations inserted into the pre-established DTD relating to a data source format.

98. (Currently amended) The method of claim 1, further comprising executing additional operations, the additional operations comprising:

embodying the mapping in a machine readable form within the data processing device;

using the mapping to generate [[an]] the XML document from the data source, the XML document being embodied in a machine readable form.

99 -100. (Cancelled)

## **II. REASONS FOR ALLOWANCE:**

Claims 1, 7, 19, 21- 22, 25, 27-28, 31, 34, 37,40, 43, 84, 87, 90, 97, and 98 are allowed.

The following is an examiner's statement of reasons for allowance:



Interpreting the claims in light of the specification, Examiner finds the claimed invention is patentably distinct from the prior art of record, as argued by Applicant in the Response dated 06/18/2008.

The closest prior art:

**Chang et al.** (US 6,584,459) teaches establishing a mapping from lists and scalars corresponding to at least one data source into XML elements and attributes [See *Col. 19, lines 47-47 & Figs. 1 and 3*].

The prior art does not expressly teach in combination all Applicant's claimed limitations. In particular, **independent Claim 1** recites the features: "*expressing the mapping in constructs of a mapping language, wherein the mapping language includes two constructs: the binding specification and the value specification, wherein the value specification associates with a value or choice declaration, wherein the binding specification includes at least one variable/expression pair, wherein the at least one data source comprises multiple heterogeneous data sources, and the method further comprises: using a pre-established Document Type Definition corresponding to the multiple heterogeneous data sources; and based on the pre-established DTD and the multiple heterogeneous data sources, adding annotations to the pre-established DTD to create an annotated DTD, such that an Extensible Markup Language*

*document generated from the annotated DTD is guaranteed to conform to the pre-established DTD."*

The Examiner asserts that the claims overcome the prior art of record when the limitations are read in combination with the respective claimed limitations in their entirety.

Dependent claims are allowed as they depend upon allowable independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Contact information**

- III. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maikhanh Nguyen whose telephone number is (571) 272- 4093. The examiner can normally be reached on Monday - Friday from 9:00am – 30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached at (571) 272-4137.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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